

Cytokine Receptor Common Gamma Chain Like

Priority

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G.A. 2 5 This application claims priority to U.S. Provisional Application Serial No. 60/078,563, filed March 19, 1998. This application also claims priority to U.S. Provisional Application Serial No. 60/086,505, filed May 22, 1998, herein incorporated by reference in its entirety.

Field of the Invention

10 The present invention relates to a novel human gene encoding a polypeptide which is a member of the Cytokine Receptor family. More specifically, the present invention relates to a polynucleotide encoding a novel human polypeptide named Cytokine Receptor Common Gamma Chain Like, or "CRCGCL." This invention also relates to CRCGCL polypeptides, as well as vectors, host cells, antibodies directed to CRCGCL polypeptides, and the recombinant methods for producing the same. Also provided are diagnostic methods for detecting disorders related to the immune system, and therapeutic methods for treating such disorders. The invention further relates to screening methods for identifying agonists and antagonists of CRCGCL activity.

Background of the Invention

20 Biochemical and physiological effects often result from the binding of a cytokine to a specific receptor molecule. Receptor binding then stimulates certain, and often independent, signal transduction pathways. (Kishimoto, T., et al., Cell 76:253-262 (1994).) The interaction between a cytokine and a receptor is a primary regulator of a variety of cellular processes, including activation, proliferation, and differentiation. (Arai, K. -I, et al., Ann. Rev. Biochem. 59:783-836 (1990); Paul, W. E. and Seder, R. A., Cell 76:241-251 (1994)).

25 Cytokines that bind to the interleukin-2 (IL-2) receptor common gamma chain (gamma c), including IL-2, IL-4, IL-7, IL-9, and IL-15, are important for the growth and differentiation of immune cells, such as T and B lymphocytes, natural killer cells, macrophages, and monocytes. These cytokines have overlapping biological effects that in part result from the use of the shared receptor subunit gamma c. Recently it has
30 been shown that these cytokines activate a number of important intracellular signaling molecules, by binding to the interleukin-2 (IL-2) receptor common gamma chain (gamma c), including the Janus kinases JAK1 and JAK3 and members of the